

Regulating flexibility: Uber Black in Oslo and the platform as a technological work arrangement

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Abstract

There is a fundamental dilemma at the heart of Uber's business model: How can Uber make sure its drivers behave according to the company's needs, without compromising their flexibility? The solution to this problem is Uber's platform, a technology for organizing the labor process and regulating flexibility, what I term Uber's technological work arrangement. The article explores the effects of this "algorithmic management" based on a case study of Uber Black in Oslo and finds that Uber's dynamic pricing scheme, bilateral rating system and algorithmic trip assignment together constitute an opaque digital working environment that automatically changes the conditions under which the drivers work. The platform's effects, however, cannot be deduced from the technology itself but emerges from the interaction between Uber's formal work arrangement and technological work arrangement. In the conclusion, it is hypothesized that the platform additionally facilitates the exploitation of a "surplus population".

Keywords: algorithmic management, control, flexibility, Oslo, labor, platform economy, Uber.

Introduction

Uber has become the most valuable private company in the world and is often highlighted as a paramount example of the "gig economy" – a reorganization of work and consumption enabled by the digital revolution (Prassl, 2018; De Stefano, 2015). The company usually engages drivers as independent contractors and uses the platform to allocate passengers' requests to a workforce

generally paid on commission, evaluating both drivers and passengers by allowing them to rate each other. Uber offers the drivers significant flexibility, generally allowing them to work whenever and how much they want, and claims to be a technology company, solely providing the service of intermediation. In the terms of use stipulated by Uber's Dutch subsidiary, Uber B.V., who manages the operation of Uber's application in Europe and through which all payments are routed, Uber writes that it "does not deliver transport or logistics services or functions as a transport provider. All such transport or logistics services are delivered by independent third-party contractors who are not employed by Uber nor any of its subsidiaries" (Uber, 2017a, my translation; see Uber, 2017b for the terms of use applying in the US where the same argument is made). On 20 December 2017, however, the European Court of Justice (ECJ) ruled that Uber should be regarded as a "transport service" under EU law, and not as an "information society service". The court argued that Uber is "indispensable" for drivers and passengers and "exercises decisive influence over the conditions under which the drivers provide their service", thus functioning as more than a mere intermediary (Curia, 2017). ECJ articulates an important argument: It is not Uber's technology but the drivers who perform the actual, physical labor of transportation. Behind a shiny technological façade and "user-friendly" smartphone application, there are people working, driving customers from A to B, often under not so "worker-friendly" conditions (Hotvedt, 2016; Kenney & Zysman, 2017a; Rosenblat, 2018). However, the platform nonetheless constitutes a key element of Uber's business model, and in the following, I investigate how Uber uses its platform to regulate the drivers' formal flexibility, organizing their labor process while at the same time avoiding employing them directly.

In this article, I explore Uber's operations in Oslo, Norway, a country whose labor market is characterized by a stable and low proportion of atypical forms of employment (Nergaard, 2018), and an example of what Esping-Andersen (1990) termed a social democratic welfare regime or the Nordic model, defined by universalized social protections, high levels of employment and unionization, coordinated wage determination and an active state regulating the labor market in collaboration with social partners through collective agreements (Andersen, Dølvik & Ibsen, 2014). Taxis in Norway are considered a part of the public transport system. The Norwegian taxi industry is privately operated and does not receive subsidies, but is regulated by a means testing and numeric restriction on the number of taxi licenses, a maximum price limitation and

qualification requirements for obtaining both taxi licenses (for taxi owners) and professional licenses (for drivers) (Aarhaug, 2014). Uber now operates in over 600 cities and 65 countries, and Uber in Oslo is an interesting case for studying how the company adjusted its business model to a highly regulated labor market and taxi industry. In addition, Uber Black, the service investigated in this article, in itself constitute an intriguing object of analysis that illustrates the diversity in Uber's product portfolio. However, it is important to note that the platform economy constitutes a very marginal phenomenon in Norway as well as the other Nordic countries (Dølvik & Jesnes, 2018; Alsos, Jesnes, Øistad & Nesheim, 2017).

My analysis demonstrates that the digital platform as a technology for organizing the drivers' labor – what I term Uber's technological work arrangement – has its own particular effects arising from its interaction with the drivers' working conditions and the wider social context. To date, there is meager research on the actual working conditions of Uber drivers (Dølvik & Jesnes, 2018: 54), and this article contributes to the literature by offering an empirical investigation of Uber Black in Oslo as a case both of labor in the platform economy and of how Uber adjusted its business model to a particular regulatory regime. In addition, I contribute by describing a methodology for collecting data on Uber drivers and their working conditions, a field that can be difficult to access for researchers and theoretically by providing a conceptualization of Uber's platform as a technological work arrangement. After briefly describing how Uber has adjusted its business model to the regulations of the taxi industry in Norway and my theoretical and methodological point of departure, I analyze the formal work arrangement of Uber Black in Oslo. In this particular manifestation of Uber's business model, the drivers are employed by limousine companies who also own the cars and obtain the required permits. Within the hours the drivers get access to a car, they themselves can choose how much they want to work. This flexibility endowed to the drivers is important for Uber's claim to be a mere intermediary, but confronts Uber as a potentially severe problem: How can Uber make these formally free drivers work when and where Uber needs them to? I then explore how Uber uses its platform as a technology for organizing the drivers' labor to regulate this flexibility. Finally, I conclude by hypothesizing that the platform additionally enables the exploitation of a population made superfluous. While this seems to be the case for Uber in Norway, it might also be the case for Uber in other countries as well as other labor-market platforms.

Uber in Norway: From piracy to luxury

Uber initiated its operations in Oslo – the only city in Norway where Uber operates – in November 2014, which turned out to be a somewhat bumpy ride. Uber’s Norwegian subsidiary offered two services, Uber Black and Uber Pop. Uber Black is high-end service with professional drivers and luxurious cars, while Uber Pop, on the other hand, allowed everyone with a driver’s license, a less than ten-year-old car and no criminal record to sign up and become Uber drivers. The Uber Pop drivers received between 70 and 80 percent of the trip fares and were hired as independent contractors having to pay their own taxes, fuel, toll charges and insurance. Although there is a case to be made that the Uber Pop contracts in fact could entail an employer-employee relationship if tried in court (Hotvedt, 2016), it was not misclassification or any issues grounded in labor law that led to Uber’s problems in Norway, but rather the fact the Uber Pop drivers did not have the licenses required by the Norwegian Professional Transportation Act (2002: § 9) for providing transportation for remuneration. After 138 drivers were fined, 94 lost their driver’s license and 67 had their earnings confiscated, and Uber Norway and Uber B.V. received a shared fine of five million NOK (512,070 EUR), Uber Pop was “paused” on October 30, 2017.

However, this was not the end of Uber in Norway. In contrast to Uber Pop, Uber Black in Oslo is organized through limousine companies which have secured an agreement with Uber to function as intermediaries. The limousine companies employ the drivers and own the cars, supplying Uber with a workforce and vehicles. The cars are licensed with limousine service operator licenses (*selskapsvognløyve*), a special license for companies providing high-end transportation. These are issued by the municipality to companies satisfying the profile requirements (a well-documented business model and provide information on employees, customer base, niche and cooperation agreements) and whose cars are deemed “exclusive”. To satisfy the exclusivity requirement, the limousine companies use cars such as Mercedes-Benz S-class, Jaguar XF, Tesla Model X and BMW 7-series, all black and equipped with leather seats. The drivers’ working conditions, however, are not as luxurious. They are usually paid on commission, although some companies provide the drivers with a fixed hourly wage. The commission-paid drivers receive between 30 and 40 percent of the fare, as Uber taxes a 25 percent cut and the limousine companies take between

35 and 45 percent. For the commission-paid drivers, their income is intrinsically tied to the number of passengers they pick up and drive. By partnering with Uber, these limousine companies are able to service two markets: a relatively narrow market of customers accustomed to booking high-end transportation through limousine companies, and a wider market of Uber users. As Uber does not take a cut of the trips booked directly through the limousine companies and these are more expensive than those arranged through the platform, the direct bookings are more lucrative for the drivers.

All of the 20 Uber Black drivers I met were male, and all but two had immigrated to Norway or were the children of immigrants. One had moved to Norway from a Nordic country, while the rest were of African, Asian or Eastern European descent. Most drivers seemed to be between 30 and 50 years old. These demographic characteristics are similar to those reported in a study of Uber Pop drivers in Oslo (Alsos *et al.*, 2017: 56-57) and Uber drivers in London (Berger, Frey, Levin & Danda, 2018), but the Uber Black drivers in Oslo seem to be older than the drivers in the United States (Hall & Krueger, 2018: 710). Importantly, the two drivers without immigrant background were also in a very different situation than their colleagues: They make a good salary and either have their own company or work for limousine companies not reliant on Uber. Having been in the business much longer than Uber and receiving a steady amount of direct bookings, these drivers only log on their Uber application when their schedules provide them with some extra time to “help Uber”, as one of them said (driver 1).

Akin to the Uber drivers, regular taxi drivers in Norway are also usually commission-paid and has an ethnic minority background. Over the last 20 years, the taxi drivers have experienced an intensification of the labor process, as the industry has moved from using three drivers to keep a car continuously in operation to now having to manage the same service with only two drivers (Jensen, Jordfald & Bråten, 2014). Emerging out of an overt objective to facilitate more competition and introduce new technology and business models – such as Uber – the Ministry of Transport and Communications (2018) published consultation memorandum on 1 October 2018 proposing a partial deregulation of the taxi industry by removing the means testing of taxi licenses. The Ministry proposes to keep the license requirement for both drivers and passengers, but suggests to allow license holders to freely choose their preferred company constellation and

transferring the expertise requirements from license holders to drivers. The new regulations are scheduled to be implemented on 1 January 2020, but the final outcome of the deliberation – and thus the consequences for Uber’s operations in Norway – is yet not determined.

Theoretical preliminaries: The political technology of the platform

French philosopher Gilles Deleuze writes that “machines are social before they are technical” (2006: 34). Every material technology is preceded by a social arrangement enabling its conception, production and implementation, Deleuze argues (1995: 180; see also Bogard, 2009; Savat, 2009). In this sense, every technology has a double social dimension. On the one hand, technologies always emerge within a social context based on socially defined objectives. On the other, technologies have social effects which cannot be deduced directly from the technology, but are the results of an interaction between the technology and the context within which it is implemented. In the case of Uber, this conceptualization of technology allows us to hypothesize that Uber’s platform is designed with the purpose of addressing a “problem” and, secondly, that the effects of Uber’s platform are structured by and particular to the conditions under which the technology is made use of.

Together with Airbnb, Uber is often viewed as framed as the protagonist of the so-called sharing economy, an economic system described as enabling the commodification of “idle” or “underutilized” assets (Krokan, 2018; Botsman & Rogers, 2011). The local research frontier (see Mjøset, 2006) on labor in the platform economy constitute a rapidly growing literature on the digital platforms’ characteristics and effects. A core argument in this literature is to assert that even though the “sharing economy” is sometimes held to represent a new, non-hierarchical and amicable economic system where everyone is friends and “what’s mine is yours”, as Botsman and Rogers influential book is titled (2011), the platform model has introduced new forms of control into the world of work (Wood, Graham, Lehdonvirta & Hjorth, 2018; Calo & Rosenblat, 2017; Newlands, Lutz & Fieseler, 2018; Pongratz, 2018). Kenney and Zysman (2016: 62) argue that similarly to how the industrial revolution was based on factories as the diagram for organizing production, the changes in our contemporary economies are organized around digital platforms

collecting and analyzing the vast amounts of data available in today's ever-increasingly digitalized societies (see also Srnicek, 2017).

Navigating the complex landscape of somewhat conflicting terms (Howcroft & Bergvall-Kåreborn, 2019), I use the term “platform economy” to describe Uber’s work arrangement to draw attention to the system organizing the drivers’ labor. While digitalization is often framed as facilitating the automation of an unknown but significant proportion of work previously performed by humans (see Brynjolfsson & McAfee, 2014; Frey & Osborne, 2013; World Economic Forum, 2016), digital platforms such as Uber, Taskrabit and Upwork – what Kenney and Zysman (2017b) call labor-market platforms – use human labor power as the fundamental ingredient in their operations. Srnicek argues that although these platforms present themselves as “empty spaces for others to interact on, they in fact embody a politics” (2017: 46-47), and Zysman and Kenney write that the platforms are “multisided digital frameworks that shape and intermedate the rules participants follow to interact with one another” (2018: 56), echoing the verdict by the ECJ. The embedding of labor within the grips of digital platforms thus “not only shifts the terms of competition, but creates new forms of work and new ways of engaging with workers” (Kenney & Zysman, 2017b: 6). Hence, Rosenblat and Stark argue, there is a fundamental tension between the extensive control exercised by Uber’s platform and the company’s self-presentation as a “neutral intermediary that facilitates access to underused and ‘undercommoditized goods and services’, engaging drivers as independent contractors” (2016: 3761). Following these assertions, the platform can be conceptualized not as a mere digital technology, but rather as a political technology, i.e. a mode of controlling people and their behavior. Lee, Kusbit, Metsky and Dabbish (2015) term this form of control “algorithmic management”, and highlight three techniques employed by Uber: Dynamic pricing, bilateral ratings and algorithmic trip assignment. Uber’s algorithmic management is based on the continuous extraction of data on the users – drivers and passengers alike – and usage of the platform (see Uber, 2018 for an overview), enabling Uber to automatically adjust the conditions under which the drivers work based on changes in the environment. In addition, *The New York Times* has revealed that Uber employed a program called “Greyball” in cities where Uber faced legal challenges, showing fake vehicles and automatically canceling rides for passengers identified to be government officials to hinder the prosecution of

drivers and the company (Isaac, 2017). Uber acknowledged that the program had been used in Oslo since 2014 (Rusdal, 2017).

Methods: Exploring labor in the platform economy

From early March to late June 2018, I conducted what I have termed a traveling ethnography among Uber Black drivers in Oslo. I formally held the role of a passenger, ordering trips through the Uber application, and observed and interviewed the drivers during the ride, always presenting myself and my project and highlighting the voluntary nature of participation. Rosenblat (2018: 209-216) employs a similar methodology when studying Uber drivers in North America. Over the course of 21 trips, I met and interviewed 20 drivers – as I met one driver twice, all automatically sampled by Uber’s algorithm. Before I began collecting data, I had a meeting with Uber Norway informing them about my project. Uber neither wanted to approve nor disapprove the project, but told me that the drivers are free to participate if they want. In addition, Uber Norway said that there at the time, early 2018, were less than 100 Uber Black drivers in Oslo. There are 90 limousine service operator licenses in Oslo (Oslo Municipality, n.d.), and as each Uber car is used by two drivers and the limousine service operator license is used for other purposes than Uber as well, one can assume that Uber Norway’s estimate is more or less correct.

Most interviews were held in Norwegian, but a few drivers preferred to speak English, and lasted between 15 and 25 minutes. In addition, I conducted one 45 minutes’ in-depth interview with one driver. Including the in-depth interview, six of the interviews were recorded. I wrote extensive fieldnotes after each trip, first in Norwegian and translated to English when digitalized. The transcribed interviews and fieldnotes were thematically coded, which resulted in eight categories, after which I structured my analysis: “Becoming an Uber driver”, “The limousine companies”, “Contracts”, “Luxury”, “Trip assignment”, “Surge pricing”, “Rating system” and “Drivers’ strategies”. Rather than using fictitious names, I anonymize the drivers using numbers according to the order by which they are introduced in the text to draw attention to their experiences and stories rather than to them as individuals.

Doing the interviews in the cars with the drivers, the space in which they spend their working day, enabled a fruitful combination of interviewing and observation (see Elwood & Martin, 2000). I could ask questions based on what I saw and they could comment on what we experienced during our ride. I had no predetermined interview guide, but rather one or two prepared themes – such as the rating system, the role of the limousine companies, their earnings, working hours, what they considered the best and worst aspects of being an Uber driver et cetera – to discuss with each driver. I did not cover all topics with all drivers. The assumption that there is any one truth “out there” that the researcher’s participation distorts is problematic (Alvesson & Karreman, 2011; Atkinson & Coffey, 2003), and I tried to use the situation to my advantage by being strategic, asking the questions to which I wanted answers, as well as studying myself and my interaction with the Uber drivers and the platform. I started every interview by asking the drivers how their day had been so far and how they became Uber drivers. A crucial aspect of Uber’s platform, however, is its opaqueness. From the perspective of passengers and drivers alike, its inner workings cannot be deciphered. To study Uber’s platform, I therefore had to consult documents and research published by Uber describing how the platform functions in addition to the interviews and observation.

I initially intended to observe a handful of drivers while they worked and drove other passengers. When I tried to recruit the first drivers for such a research design, they first seemed positive and willing to participate and gave me their contact information, but did not respond when we were going to organize the observation. The “traveling ethnography” then emerged as a viable strategy. However, some dilemmas arose from my double role as researcher-passenger. While I gave all the drivers a five-star rating and told the drivers they could withdraw at any moment, the fact that I paid for every trip and was going to rate the drivers afterward probably influenced both their willingness to talk to me and what they said. I tried to make the drivers comfortable and not push them on issues that seemed sensitive. Nonetheless, most drivers were very talkative and I experienced them as interested in sharing their story with me. With the drivers I met during my initial recruiting phase, I faced an additional ethical dilemma, as I was of the assumption that we were going to meet again and we thus did not discuss what I was going to do with our conversations if we did not. Although they all knew what my project entailed, I have chosen to rely on quotes from these drivers to a very limited degree, but what they told me has nonetheless informed the

overall analysis. On the other hand, the double role as a researcher-passenger was undoubtedly valuable. It enabled access and allowed me to experience for myself how the platform works, the psychological effects of the rating system, the luxury of the cars and the unpredictability of the “surge pricing” algorithm, and exposed the ethnic and socio-economic distinctions between the drivers and me. The drivers often addressed me as part of a “you”, opposed to their “us”, a representative of their “Other”, both “the passengers” and the ethnic majority.

Uber’s formal work arrangement and the problem of flexibility

Before diving into the structure and effects of Uber’s technological work arrangement I first describe the formal work arrangement of Uber Black in Oslo. This will provide some contextual references for better understanding the labor in the platform economy and the Uber drivers’ everyday lives, but it also illustrates a theoretical point highlighted above: A technology such as Uber’s platform cannot be understood sufficiently in a vacuum. It does not function identically in all social contexts, as its effects are highly contingent the drivers’ working conditions.

The Uber Black drivers in Oslo get access to a car for twelve hours, five or six days per week. There is a day-shift (starting at five or six AM) and a night-shift (starting at five or six PM), thus, the cars are on the road continuously. However, within the twelve hours the drivers get access to a car, the drivers themselves can choose how much they want to work. The Uber Black drivers in Oslo value the flexibility of the work arrangement. Some told me they enjoyed “being their own boss” and setting their own schedules, which, to some extent, can be read as a reification of Uber’s recruitment campaigns: “You’re the boss. You can drive with the Uber app day or night. Fit driving around your life, not the other way around” (Uber, n.d.-a). On the other hand, it is crucial to acknowledge that Uber provided these people with real opportunities. For the majority of the Uber Black drivers I met, driving with Uber is one of their very few opportunities in the Norwegian labor market. Some came to Uber from unemployment, many drove Uber Pop and moved to Uber Black when the former was discontinued or after they had been sentenced for illegally providing passenger transportation, while other drivers worked physically demanding, low-paid and precarious job. To understand why Uber emerged as a viable and lucrative job opportunity for the drivers, it is crucial to make sense of their frame of reference: Compared to the previous work experiences, driving Uber is considered a significant upgrade, offering flexible hours and a

comfortable physical working environment. Driver 2 said: “As an Eastern European, temp agencies are the only ones willing to employ you. I don’t like that – Uber is much better [...]. For me, driving this car is the same as lying on the sofa watching television for you”. Similarly, driver 3 argued that former construction workers are particularly appreciative of driving Uber: “They regain the nice and soft hands they had before [laughs].”

A fundamental feature of Uber Black in Oslo is the scarcity of passengers. The drivers are unable to fill their schedules with back-to-back customers, and usually have to wait a long time – sometimes hours – between each request. As most drivers are paid on commission, they thus end up having to work long hours to earn a decent living. As in other forms of platform work, such structural and market-driven constraints severely limits the workers’ flexibility (see Lehdonvirta, 2018). While formally flexible, the Uber Black drivers seldom work less than ten hours per day, usually from 200 to 250 hours per month, sometimes up to 300. Most drivers told me they earned between 20,000 and 40,000 NOK (2050 to 4050 EUR) per month before taxes, and were generally unhappy with the number of hours they had to work to keep afloat. Driver 4 told me he had worked 250 hours the previous month and was left with 19,000 NOK and driver 5 told me he worked between 280 and 300 hours per month, usually making 20,000 NOK. Driver 6 works 12 hours six days per week, earning between 600 NOK (62 EUR) per day before taxes after Uber and the limousine company takes their cut. “I have a lot of expenses – house, family, mortgage and so on. No, it is not a well-paid job”, he said. As a comparison, the average monthly earnings in Norway before taxes in 2018 was 45,610 NOK (4900 EUR) (Statistics Norway, 2019) and a normal working week is limited to 40 hours (Working Environment Act, 2005: § 10-4, 1), or 160 hours per month. For the commission-paid drivers, their income is inextricably linked to their number of customers and the sole available strategy for making more money is to stay on the road longer. In this context, the number of customers has emerged as the criteria the drivers use to evaluate their day. When I asked the drivers how their day was going so far, the two most common answers I received were: “Very good, a lot of customers today” and “Very bad, no customers today”.

Uber has itself commissioned and conducted research on its drivers’ working conditions (see Häring, 2017), emphasizing the drivers’ flexibility as valuable for individual drivers and the market in general, and concluding that Uber constitute a “better” and more efficient system for

organizing transportation (e.g. Cohen, Hahn, Hall, Levitt & Metcalfe, 2016). In an article argued by Berg and Johnston (2019: 40) to be “fraught with methodological problems and unsubstantiated claims”, Chief Economist at Uber Jonathan V. Hall and renowned economist Alan B. Krueger (2018: 706) write: “After driver applicants qualify to partner with Uber, they are free to spend as much or as little time as they like offering their services to passengers”. They find that the hours drivers spend on the road vary “depending on workers’ desires in light of market conditions” (Hall & Krueger, 2018: 706: see also Hall, Horton & Knoepfle, 2017). According to Chen, Chevalier, Rossi and Oehlsen (2017: 2), Uber drivers “benefit significantly from real-time flexibility, earning more than twice the surplus they would in less flexible arrangements” and argue that while Uber-style arrangements “may have important downsides relative to the traditional careers they supplant, we expect that flexibility will be an important source of value in such arrangements” (2017: 41). According to Angrist, Caldwell and Hall (2017), Uber’s flexible work arrangement renders the Uber drivers better off than traditional taxi arrangements and Cohen *et al.* (2016) argue that Uber X in the US in 2016 generated a 1.6 USD consumer surplus for every dollar spent. They write: “One day’s worth of consumer surplus, by our estimates, is about \$18 million. If Uber were to unexpectedly disappear for a day, that is how much consumers would lose in surplus” (Cohen *et al.*, 2016: 21). Berger *et al.* (2018) find that Uber drivers in London report higher levels of life satisfaction than other workers, but simultaneously also higher levels of anxiety, and hypothesize the reason for both outcomes to be the flexibility of the work arrangement.

But the flexibility of Uber’s formal working arrangement also gives rise to a vital problem: What if the Uber drivers do not supply their labor when and where Uber needs them to? Chen and Sheldon write: “Given this flexibility, a central question is the extent to which firms can influence the supply of services on their platform” (2016: 2), and Hall, Kendrick and Nosko (2015) argue that “[d]river-partners are free to work whenever they want and must be incentivized to provide rides”. The drivers are thus flexible in a double sense. On the one hand, they are flexible in terms of being able to determine their own hours and set their own schedules, importantly, however, within the limits set by the limousine companies. On the other hand, they are flexible in the sense of being malleable. Their choices are not fixed but can be influenced. The answer to the problem of flexibility is Uber’s digital platform.

Uber's Technological work arrangement

Uber's platform is a global technology in the sense a more or less uniform system is used in all the countries Uber operates, although the formal work arrangements may vary. The platform as technological work arrangement comprises of three techniques: Dynamic pricing, bilateral ratings and algorithmic trip assignment. Importantly, contrarily to Uber in the US – as described by Rosenblat and Stark (2016) – Uber in Norway does not calculate the drivers' acceptance and cancellation rates. Such a system, however, is unnecessary in Norway, where the formal work arrangement and market conditions – with commission-paid drivers and a chronic lack of customer – makes declining requests completely foreign for most drivers.

Dynamic pricing

The price of an Uber ride is not calculated solely based on the estimated time and distance of the trip, but also factor in the ratio of drivers currently on the road to passengers in a given area. Uber calls this mechanism “surge pricing”. The former head of Uber, Travis Kalanick, argued that “surge pricing” is a technique for mirroring the always fluctuating market prices (Hwang & Elish, 2015). According to Uber, a “surge” is activated when there are more passengers seeking Uber rides in a given area than the drivers are able to serve, establishing “surge zones” where the total fare is multiplied with a “surge multiplier” – updated every fifth minute – of, for example, 1.3x, 1.7x, 2x (Chen *et al.*, 2017; Uber, n.d.-d). Surge zones are illustrated by a particular area on the map in the drivers' Uber applications becoming red, signaling to them where to go. The price a passenger will have to pay and the commission-paid drivers' earnings are thus dynamic, varying based on the ever-changing supply and demand. The dynamic pricing scheme is meant to re-equilibrate the market by incentivize drivers to get on the road by offering higher earnings and motivate passengers to “to wait for few more minutes or continue with public transport”, as Uber writes (n.d.-d), allocating “rides to those [passengers] that value them the most” (Hall *et al.*, 2015). However, Uber writes that prices also are affected by undisclosed variables not connected to the specific trip or market conditions calculate prices as well, and may increase “during a downpour, sporting events in the city or holidays, *etc.*” (Uber, n.d.-d, italics added).

For the drivers, surges represent a state of exception, an opportunity for making some much-appreciated extra money. Surges are rare in Oslo, coming into effect almost exclusively at Friday or Saturday night. “Then there is a lot of money to be made. Sometimes, the whole city becomes red, which means that there are a lot of customers all over”, driver 7 said. Although the drivers are free to set their own schedules, surge pricing pushes the drivers to adjust their labor supply to the passengers’ demand. As the surge is only activated in some areas, some drivers are strategic in the requests they accept. Driver 4 said: “If I get a normal trip and I know that there is a surge, I might say ‘no thanks’ to that trip and wait for a surge trip”. But surges are mysterious. Driver 4 told me he did not know how the surge system works, an opaqueness intensifying its enthralling character: The drivers know that surges usually appear on weekend nights, but they cannot know for sure and the exact level of the surge multiplier is impossible to foresee. When I met driver 2, he said he thought there was going to be a surge that night, after a big concert. But this kind of “surge hunting” can be an ill-starred strategy (see Rosenblat & Stark, 2016). A week earlier, he told me, he had driven out to a concert venue at the outskirts of the city, only to find no passengers and no surge. In addition, I was told that there are many drivers who work only the weekend nights, which means that there are more drivers on the road, adjusting the ratio of drivers to passengers, sometimes evening out supply and demand and neutralizing potential surges. Driver 8 told me he finds the unpredictability of the dynamic pricing scheme is frustrating. “We drivers decide nothing. Uber decides everything”, he said. Dynamic pricing illustrates the power asymmetry between the platform and the workers: It is Uber’s algorithm that decides the drivers’ earnings, without them being able to negotiate the price of their labor. In the context of the Nordic model, this represents a significant divergence from the key principle of wage bargaining (Andersen *et al.*, 2014).

Bilateral ratings

Uber employs a bilateral rating system, where drivers and passenger give each other between one and five stars after each ride. The individual ratings are anonymous and while the drivers are obliged to rate the passenger, the same operation is voluntary for the passenger. After having received five ratings, an average rating of each user is calculated and displayed on their respective profiles. The drivers see the passenger’s average rating when they receive a request and the driver’s average rating is visible for the passenger when the request is accepted and the car is on its way.

Rating systems like Uber's have been characterized as an indispensable component of online markets in general and the so-called sharing economy in particular as a tool for "building trust" among strangers (see Botsman & Rogers, 2011; Dellarocas, 2003). The case of Uber Black in Oslo illustrates that the rating system immanent in Uber's technological work arrangement, more significantly than "building trust", functions as a system for evaluating, sanctioning and controlling the drivers' behavior – what Gandini (2018: 3) terms a "techno-normative form of control". Uber writes that drivers "with consistently low ratings may be deactivated after receiving multiple warnings" (Uber, n.d.-c). Driver 9 thought the cut-off point was 4.3 stars' average rating, but none of the drivers I met knew for sure. While unknown, this symbolic threshold and the potential of deactivation renders the drivers docile. Driver 9 said: "As Uber drivers, we have to tolerate everything. We have to be kind and silent, even on Saturdays when drunk passengers are screaming and making a mess." The rating system thus asserts the passengers' evaluation as the fundamental measure of the drivers' worth, making the driver-passenger relationship pivotal and potentially momentous.

The majority of the Uber Black drivers in Oslo I met, however, were not overly concerned with neither their own nor the passengers' ratings. Driver 10, for example, told me that "they are purely symbolic, they affect nothing". Most drivers had average ratings between 4.7 and 4.9 – the lowest I encountered was 4.5 – which might be because drivers with lower average ratings were "deactivated" by Uber, but the drivers I met had never heard about it actually happening on Uber Black in Oslo. Their somewhat aloof attitude towards their rating – in contrast to their American colleagues, for whom the rating system constitute a more or less constant stress factor (see Scholz, 2017; Rosenblat & Stark, 2016) – illustrate that the effects of the rating system are contingent on the context within which it is employed. The drivers told me they receive request independently of their rating, and that passengers seldom behave in a manner making harsh evaluations necessary. Driver 11 said that "I give all [passengers] five stars because Norwegians are nice". One time, however, he drove a drunk passenger, who tried to hit him. "I gave him one star", he said, as he had heard that if you give someone a one-star rating, you will never be matched with that person again. His scheme does not differentiate between different degrees of "proper" behavior: Either it is good – five stars – or it is terrible – one star.

Five-star ratings are considered the norm by the drivers, a norm institutionalized by Uber, who writes that “5 stars means there were no issues on the trip” (Uber, n.d.-c) and that “4 stars is not an above average rating on the Uber platform. If you are pleased with your driver, a 5-star rating will ensure he or she continues to succeed on Uber” (Uber, n.d.-b). This, however, makes deviances increasingly noticeable, and although the rating system does not manifest itself as an everyday problem for the drivers, it should not be written off as insignificant. While Uber argues that the ratings provide a “consistent measure of quality” (Uber, n.d.-c), it functions as a sanctioning mechanism and the potential menace of deactivation – i.e. being fired – always lurks in the shadows. Asking driver 4 how he feels when he receives low ratings, he told me: “I don’t feel very good when my rating is going down. You feel a little bit stupid and like ‘what is going on?’” As I formally held was a passenger when conducting my fieldwork, I too was rated by the drivers. While I initially felt the comfort of a clean five-star average rating, I eventually saw my rating starting to drop, slowly, reaching its lowest point at 4.32. To my surprise, I became quite sad and anxious. My first thought was that I had done something wrong and had to fix it, without knowing what nor how. By taking the form of a judgment, the bilateral ratings have an affective dimension. I experienced the ratings as an evaluation of my person: As my average rating began to drop, I started thinking it was something wrong with *me*. The phenomenology of the algorithm reveals that the rating system breaks down the distinction between the sphere of labor and consumption and the private by enabling a direct and personal rating of the service provider and passenger. However, even when my rating was on its lowest, I did not have any problems getting a ride through the platform. Declining requests from passengers because they have a less-than-perfect average rating is a luxury most Uber Black drivers in Oslo cannot afford. I continued as before and eventually saw my average rating increasing to 4.65.

Algorithmic trip assignment

The Uber drivers do not choose their own customers but are assigned requests from passengers through the platform. When they receive a request notification, they have 30 seconds to accept or decline. To assist the drivers in their decision, Uber provides them with information on the passenger’s name, position and average rating. They cannot see the passenger’s destination, but are notified if Uber estimates the trip to be longer than 30 minutes. The concealing of passengers’ destinations can make it difficult for the drivers to plan their workday. Driver 12, for example, told

me he has to stop accepting request one hour prior to a direct booking from the limousine company, in case he does not make it back in time for his next appointment. For Uber, however, not displaying passengers' destinations is an important measure for making sure all requests being served equally – independently of how lucrative they are for the drivers.

But regardless of the information they receive, most drivers would never decline a request. “On Uber Black, there is very little work, so we take everyone”, driver 13 said. One of the ethnic Norwegian drivers with his own company and many private customers – i.e. not through Uber’s platform – driver 1, however, said that he does not accept requests from customers with an average rating under 4.5, arguing that “that means that you are not a person that I want to have in my car.” This illustrates that Uber’s algorithmic management functions differently in different segments of the market. He continued: “It is terribly easy to get good ratings as a passenger, so if you receive low ratings, that means that you either dirty the car or are notoriously late. And I don’t want that kind of customers.” However, it is important to note that I had an average rating of 4.3 stars when he picked me up.

Conclusion

Hence, Uber’s platform should be understood as a tool for organizing the drivers’ labor and solving the potential problems emerging from endowing them with the freedom to work as much or as little as they want. Through dynamic pricing, bilateral ratings and algorithmic trip assignment, Uber’s technological work arrangement regulates the drivers’ formal flexibility to make sure they behave according to Uber’s interests. The non-negotiability of this algorithmic management illustrates the asymmetries and power relations between the platform and the drivers: The platform imposes its decision without warning nor consulting the drivers – they cannot negotiate with the algorithm. In his writing on what he termed “the society of control”, Deleuze describes this mode of power using the fitting analogy of the highway: “In making highways, for example, you don’t enclose people but instead multiply the means of control. [...P]eople can drive infinitely and ‘freely’ without being at all confined yet while still being perfectly controlled” (Deleuze, 1998: 18; see also Oppegaard, 2018). In this sense, the platform and its algorithmic management can be

seen as enabling Uber to let the drivers loose, while maintaining control by regulating their flexibility through an adaptable form of power.

My case study of Uber Black in Oslo has shown that the effects of Uber's technological work arrangement are contingent on the formal work arrangement and market conditions. Firstly, Uber's "surge pricing" system incentivizes the drivers to provide rides when and where Uber needs them to by increasing the fares in areas where there are many customers relative to drivers. As most Uber Black drivers in Oslo have an urgent desire for increasing their earnings, "surges" constitute an opportunity they cannot miss out on. However, its opaqueness and unpredictability limit the drivers' control over pay and working hours by making the potentially deceptive promise of increased earning – introducing an additional element of uncertainty to the drivers' working environment. Secondly, bilateral ratings, as a form of "techno-normative" control, is meant to inculcate in the drivers a behavior appreciated by the passengers. But as five-star ratings are the norm, the rating system seldom constitutes a pressing issue for the drivers. Nonetheless, the threat of deactivation renders the drivers docile and the act of being rated, experienced as an evaluation of oneself as a person, illustrates the affective dimension the technology. Still, the rating system is secondary to the formal work arrangement and features of the Uber Black market in Oslo: For the commission-paid drivers, whether the passenger has three or five stars' average rating is irrelevant so long as they pay the fare, allowing the drivers to collect their share. Finally, through algorithmic trip assignment, Uber's platform allocates requests from passengers to vacant drivers. By concealing the passengers' destinations, the platform makes sure all request is accepted, independently of how lucrative they are for drivers. Although postulated by Uber to be independent and free, the drivers are not allowed to choose the trips they want.

The defining trait of my sample of Uber Black drivers in Oslo is their status as ethno-racial outsiders conscripted to work in low-paid jobs with little security and stability, for whom driving Uber therefore appeared as a more comfortable and worthwhile job. Based on this important facet of Uber's Norway operation, I end with a hypothesis and potential avenue for further research: Uber's technological work arrangement allows the company to exploit a "surplus population", to speak with Marx (1993: 608-610; [1867]2008: 785-810), i.e. people made superfluous by a lack of integration and suffering the "ethnic penalties" (Midtbøen, 2015) of the Western "knowledge-

intensive” labor market, having no economic function and purpose in the market (Shammas, 2017). Uber’s formal work arrangement and technological work arrangement combines the avoidance of the employer responsibilities with rigid control over the drivers’ labor process, countering the formal flexibility Uber necessarily has to offer the drivers in order to claim they are independent. This enables Uber to engage whomever, unconcerned with their skills and qualifications. Uber is thus a good example of what Braverman (1994) describes as the capitalists’ ideal work arrangement, where the production process functions independently of the workers’ knowledge and skills, rendering them as interchangeable elements in the production.

It is no coincidence that Uber emerged in the aftermath of the financial crisis of 2007–2008, providing the company with a pool of “underutilized” labor, as the prophets of the “sharing economy” would call it. Uber’s platform guides the workers throughout the labor process, incentivizing particular and valued conducts, automatically sanctioning behavior deemed undesired by the customers – potentially by deactivation – allowing Uber to keep its hands clean. Drivers are assigned trips automatically and Uber does not have to schedule the drivers’ shifts but allows them to drive whenever they want and leaving it to the dynamic pricing scheme to make them provide rides when and where they are needed. By hiring drivers as self-employed, or, as in Norway, using limousine companies as intermediaries, paying most drivers only a commission of the fare of the trips they complete, Uber furthermore transfers the risks of low demand onto the drivers, and avoids having to pay the drivers when they are not making money for Uber – but still working and on the road. Circumventing employer status further relieves Uber from having to make any contributions towards the drivers’ pensions insurances, thus removing most of the potential liabilities of engaging a “surplus population”. Further research could investigate the validity of this hypothesis for Uber’s operations in other countries as well as on other labor-market platforms.

References

- Aarhaug, J. (2014), *Taxis as urban transport*, TØI report 1308/2014. (Oslo: Institute of Transport Economics).
- Alsos, K., K. Jesnes, B. Øistad & T. Nesheim (2017), *Når sjefen er en app*, Fafo report 2017:41. (Oslo: Fafo).

- Alvesson, M. & D. Kärreman (2011), *Qualitative research and theory development: Mystery as method*. (London: Sage Publications).
- Andersen, S. K., J. E. Dølvik & C. L. Ibsen (2014), *Nordic labour market models in open markets*, ETUI report 132, (Brussels: ETUI).
- Angrist, J. D., S. Caldwell & J. V. Hall (2017), ‘Uber vs. taxi: A driver’s eye view’. Working Paper No. 23891, *National Bureau of Economic Research*.
- Atkinson, P. & A. Coffey (2003), ‘Revisiting the relationship between participant observation and interviewing’, in J. A. Holstein & J. F. Gubrim (eds) *Inside interviewing: New lenses, new concerns*, (London: Sage), pp. 415-428.
- Berg, J. & H. Johnston (2019), ‘Too Good to Be True? A Comment on Hall and Krueger’s Analysis of the Labor Market for Uber’s Driver-Partners’, *ILR Review* **72**, 1, 39-68.
- Berger, T., C. B. Frey, G. Levin & S. R. Danda. (2018), ‘Uber Happy? Work and Well-being in the “Gig Economy”’. 68th Economic Policy Panel Meeting, 4-5 October 2018.
- Bogard, W. (2009), ‘Deleuze and Machines: A Politics of Technology?’, in D. Savat & M. Poster (eds) *Deleuze and New Technology*, (Edinburgh: Edinburgh University Press), pp. 15-31.
- Botsman, R. & R. Rogers (2011), *What’s Mine is Yours: How Collaborative Consumption is Changing the Way We Live*. (London: Collins).
- Braverman, H. (1994), ‘The making of the US working class’, *Monthly Review* **46**, 6, 14-36.
- Brynjolfsson, E. & A. McAfee (2014), *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. (New York: WW Norton & Company).
- Calo, R. & A. Rosenblat (2017), ‘The taking economy: Uber, information, and power’, *Columbia Law Review*, 1623-1690.
- Chen, M. K., J. A. Chevalier, P. E. Rossi & E. Oehlsen (2017), ‘The value of flexible work: Evidence from Uber drivers’, Working Paper No. 23296, *National Bureau of Economic Research*.
- Chen, M. K. & M. Sheldon. (2015), ‘Dynamic Pricing in a Labor Market: Surge Pricing and Flexible Work on the Uber Platform’. *Proceedings of the 2016 ACM Conference on Economics and Computation*, 1-19.

- Cohen, P., R. Hahn, J. Hall, S. Levitt & R. Metcalfe (2016), 'Using big data to estimate consumer surplus: The case of Uber', Working Paper No. 22627, *National Bureau of Economic Research*.
- Curia (2017), 'Judgment in Case C-434/15', Press Release, *Court of Justice of The European Union*. Available: <https://curia.europa.eu/jcms/upload/docs/application/pdf/2017-12/cp170136en.pdf> (Accessed 12 March 2019).
- De Stefano, V. (2015), 'The rise of the just-in-time workforce: On-demand work, crowdwork, and labor protection in the gig-economy'. *Comparative Labor Law & Policy Journal* **37**, 471.
- Deleuze, G. (1995), 'Postscript on Control Societies', in *Negotiations: 1972–1990*, (New York: Columbia University Press), pp. 177–82.
- Deleuze, G. (1998), 'Having an Idea in Cinema (On the Cinema of Straub-Huillet)', in E. Kaufman & K. J. Heller (eds) *Deleuze and Guattari: New Mappings in Politics, Philosophy and Culture*, (Minneapolis: University of Minnesota Press), pp. 14-19.
- Deleuze, G. (2006), *Foucault*. (London: Bloomsbury Academic).
- Dellarocas, C. (2003), 'The digitization of word of mouth: Promise and challenges of online feedback mechanisms', *Management science* **49**, 10, 1407-1424.
- Dølvik, J. E. & K. Jesnes (2018), *Nordic labour markets and the sharing economy. Report from a pilot project*. TemaNord report 2018:516. (Copenhagen: Nordic Council of Ministers).
- Elwood, S. A. & D. G. Martin (2000), "'Placing" interviews: location and scales of power in qualitative research', *The professional geographer* **52**, 4, 649-657.
- Esping-Andersen, G. (1990), *The Three Worlds of Welfare Capitalism*. (Princeton, NJ: Princeton University Press).
- Frey, C. B. & M. Osborne (2013), 'The future of employment', *Working Paper, Oxford Martin School, University of Oxford. September 17th, 2017*.
- Gandini, A. (2018), 'Labour process theory and the gig economy', *Human Relations*. doi: 10.1177/0018726718790002.
- Hall, J. V., J. J. Horton & D. T. Knoepfle (2017), 'Labor market equilibration: Evidence from uber', Working Paper, Uber/New York University. Available: https://john-joseph-horton.com/papers/uber_price.pdf (Accessed 12 March 2019).

- Hall, J. V., C. Kendrick & C. Nosko (2015), 'The effects of Uber's surge pricing: A case study', *The University of Chicago Booth School of Business*. Available: http://economicsforlife.ca/wp-content/uploads/2015/10/effects_of_ubers_surge_pricing.pdf (Accessed 12 March 2019).
- Hall, J. V. & A. B. Krueger (2018), 'An analysis of the labor market for Uber's driver-partners in the United States'. *ILR Review* **71**, 3, 705-732.
- Håring, N. (2017), *How Uber money dominates and distorts economic research on ride-hailing platforms*, Brave New Europe. Available: <https://braveneweuropa.com/norbert-haring-how-uber-money-dominates-and-distorts-economic-research-on-ride-hailing-platforms> (Accessed 15 February 2019).
- Hotvedt, M. J. (2016), 'Employer responsibilities in the mediation economy? The case of Uber [Arbeidsgiveransvar i formidlingsøkonomien? Tilfellet Uber]', *Lov og rett* **55**, 08, 484-503.
- Howcroft, D. & B. Bergvall-Kåreborn (2019), 'A Typology of Crowdwork Platforms', *Work, Employment & Society* **33**, 1, 21-38.
- Hwang, T. & M. C. Elish (2015), *The Mirage of the Marketplace*, Slate. Available: <https://slate.com/technology/2015/07/ubers-algorithm-and-the-mirage-of-the-marketplace.html> (Accessed 12 March 2019).
- Isaac, M. (2017), *How Uber Deceives the Authorities Worldwide*. The New York Times. Available: <https://www.nytimes.com/2017/03/03/technology/uber-greyball-program-evade-authorities.html> (Accessed 18 February 2019).
- Jensen, R. S., B. Jordfald & M. Bråten (2014), *Norwegian transport – the road ahead [Norsk transport–veien videre]*, Fafo report 2014:3. (Oslo: Fafo).
- Kenney, M. & J. Zysman (2016), 'The Rise of the Platform Economy', *Issues in Science and Technology* **32**, 3, 61.
- Kenney, M. & J. Zysman (2017a), 'Entrepreneurial Finance in the Platform Economy Era: What Consequences for Labor?' *Futures of Work Conference*, Chicago, 5–6 October 2017.
- Kenney, M. & J. Zysman (2017b), 'What Is the Future of Work? Understanding the Platform Economy and Computation-Intensive Automation'. *Seminar on the Politics of Work and Welfare in the Platform Economy*. (Radcliffe Institute, Cambridge, MA).

- Krokan, A. (2018), *Sharing, platform, trust. Perspectives on sharing and platform economy [Deling, plattform, tillit. Perspektiver på delings- og plattformøkonomi]*. (Oslo: Cappelen Damm Akademisk).
- Lee, M. K., D. Kusbit, E. Metsky & L. Dabbish (2015), 'Working with machines: The impact of algorithmic and data-driven management on human workers', *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 1603-1612.
- Lehdonvirta, V. (2018), 'Flexibility in the gig economy: managing time on three online piecework platforms' *New Technology, Work and Employment* **33**, 1, 13-29.
- Marx, K. (1993), *Grundrisse*. (London: Penguin).
- Marx, K. ([1867]2008), *Capital. Volume I: The Process of Production of Capital [Kapitalen. Kritikk av den politiske økonomien. Første bok: Kapitalens produksjonsprosess]*. (Oslo: Bokklubben).
- Midtbøen, A. H. (2015), 'Ethnic penalties in western labour markets'. *Nordic Journal of Migration Research* **5**, 4, 185-193.
- Mjøset, L. (2006), 'A case study of a case study: strategies of generalization and specification in the study of Israel as a single case', *International Sociology* **21**, 5, 735-766.
- Nergaard, K. (2018), *Forms of employment relationships/employment contracts in Norway. Final report [Tilknytningsformer i norsk arbeidsliv. Sluttrapport]*, Fafo report 2018:38. (Oslo: Fafo).
- Newlands, G., C. Lutz & C. Fieseler (2018), 'Collective action and provider classification in the sharing economy', *New Technology, Work and Employment* **33**, 3, 250-267.
- Oppegaard, S. M. N. (2018), 'The prison in the age of control. Deleuze's sketch of the society of control as a theoretical point of departure [Fengslet i kontrollens tidsalder: Deleuzes skisse til kontrollsamfunnet som maktteoretisk utgangspunkt]', in J. F. Rye & I. Lundeberg (eds) *The sociology of the prison. Power, punishment and identity in the prisons of Trondheim [Fengslende sosiologi. Makt, straff og identitet i Trondheims fengsler]*, (Oslo: Cappelen Damm Akademisk), pp. 239–262. DOI: <https://doi.org/10.23865/noasp.41.ch11>
- Oslo Municipality. n.d. *Apply for limousine service operator licenses [Søk om selskapsvognløyve]*. Oslokommune.no. Available: <https://www.oslo.kommune.no/gate->

- [transport-og-parkering/transportloyver/selskapsvognloyve/#gref](#) (Accessed 14 February 2019).
- Pongratz, H. J. (2018), 'Of crowds and talents: discursive constructions of global online labour', *New Technology, Work and Employment* **33**, 1, 58-73.
- Prassl, J. (2018), *Humans as a Service: The Promise and Perils of Work in the Gig Economy*. (Oxford: Oxford University Press).
- Professional Transportation Act (2002), 'Act on Professional Transport by Motor Vehicle and Vessel (Professional Transport Act)'. Available: <https://www.regjeringen.no/no/dokumenter/act-on-professional-transport-by-motor-v/id636843/> (Accessed 25 March 2019).
- Rosenblat, A. (2018), *Uberland: how algorithms are rewriting the rules of work*. (Oakland: University of California Press).
- Rosenblat, A. & L. Stark (2016), 'Algorithmic labor and information asymmetries: A case study of Uber's drivers', *International Journal Of Communication* **10**, 27, 3758–3784.
- Rusdal, E. (2017) *Uber avoids control [Uber unngår kontroll]*. Dagsavisen.no. Available: <https://www.dagsavisen.no/oslo/uber-unngar-kontroll-1.934637> (Accessed 18 February 2019).
- Savat, D. (2009), 'Introduction: Deleuze and New Technology', in D. Savat & M. Poster (eds) *Deleuze and New Technology*, (Edinburgh: Edinburg University Press), pp. 1-12.
- Scholz, T. (2017), *Uberworked and underpaid: How workers are disrupting the digital economy*. (New York: John Wiley & Sons).
- Shammas, V. L. (2017), 'Superfluity and insecurity: Disciplining surplus populations in the Global North', *Capital & Class* **42**, 3, 411-418.
- Srnicek, N. (2017), *Platform capitalism*. (London: Polity Press).
- Statistics Norway. 2019. 'Earnings', *Statistics Norway*. Available: <https://www.ssb.no/en/arbeid-og-lonn/statistikker/lonnansatt> (Accessed 08 March 2019).
- The Ministry of Transport and Communications (2018), 'Consultation memorandum. Changes in the taxi regulation. Repeal of the means testing etc. [Høringsnotat. Endringer i drosjereguleringen. Oppheving av behovsprøving mv.]', *Ministr of Transport and Communications [Samferdselsdepartementet]*. Available: <https://www.regjeringen.no/contentassets/d9d46f499ae244409d3726f763603543/horings>

- [notat---endringer-i-drosjereguleringen---oppheving-av-behovsprovingen-1681321.pdf](#)
(Accessed 12 March 2019).
- Uber. (2017a). *UBER B.V. Terms of use [Uber B.V. Alvtalevilkår]*. Available:
<https://www.uber.com/legal/terms/no/> (Accessed 22 February 2019).
- Uber. (2017b). *Legal. U.S. Terms of Use*. Available: <https://www.uber.com/legal/terms/us/>
(Accessed 22 February 2019).
- Uber. (2018). *Privacy policy*. Available: <https://privacy.uber.com/policy/> (Accessed 18 February 2019).
- Uber. (n.d.-a). *Driving with Uber in Norway*. Available: <https://www.uber.com/no/en/drive/>
(Accessed 12 February 2019).
- Uber. (n.d.-b). *Ride Like a Pro*. Available: <https://www.uber.com/en-NO/blog/ride-like-a-pro-2/>
(Accessed 07 February 2019).
- Uber. (n.d.-c). *Understanding ratings*. Available:
<https://help.uber.com/partners/article/understanding-ratings?nodeId=faf1eb77f-ad79-4607-9651-72b932be30b7> (Accessed 08 February 2019).
- Uber. (n.d.-d). *What is dynamic pricing?*. Available: <https://help.uber.com/riders/article/what-is-dynamic-pricing?nodeId=ba2b4925-9aed-48de-9398-8889607ee0e4> (Accessed 08 February 2019).
- Wood, A. J., M. Graham, V. Lehdonvirta & I. Hjorth (2018), 'Good gig, bad gig: autonomy and algorithmic control in the global gig economy', *Work, Employment and Society*, 0950017018785616.
- Working Environment Act (2005), 'Act relating to working environment, working hours and employment protection, etc. (Working Environment Act)'. Available:
<https://lovdata.no/dokument/NLE/lov/2005-06-17-62> (Accessed 12 March 2019).
- World Economic Forum. (2016), 'The future of jobs: Employment, skills and workforce strategy for the fourth industrial revolution', *World Economic Forum, Global Challenge Insight Report*, (Geneva: World Economic Forum).
- Zysman, J. & M. Kenney (2018), 'The next phase in the digital revolution: intelligent tools, platforms, growth, employment', *Communications of the ACM* **61**, 2, 54-63.